CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. 95-188
NPDES No. CA0030031

WASTE DISCHARGE REQUIREMENTS FOR:

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT
HAMILTON ARMY AIRFIELD
LANDFILL 26
NOVATO, MARIN COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. This Order serves as a National Pollutant Discharge Elimination System (NPDES) Permit for discharge of treated groundwater from the Landfill 26 located on Hamilton Army Airfield (also know as Hamilton Air Force Base) in Novato, Marin County.

2. The permit is being issued to issued to **U.S. Army Corps of Engineers, Sacramento District** (hereinafter called the **discharger**), which has been designated by the Department of Defense to perform necessary investigations and take appropriate remedial actions at the landfill.

   The discharger, by application dated March 10, 1995 has applied for issuance of Waste Discharge Requirements under the National Pollutant Discharge Elimination System (NPDES) for discharge of treated groundwater. The permit application was completed by the identification of a discharge point in June 1995.

3. This order addresses Landfill 26 located on Hamilton Army Airfield (HAA). The waste at Landfill 26 covers an area of 28 acres and an additional 20 acres is covered by a buffer zone

4. The Landfill consists of numerous individual discharges of solid wastes including both hazardous and non-hazardous materials. The Landfill is

located within a topographically low area of a pre-existing surface drainage channel. Investigations on the Landfill show that the wastes range in thickness from zero to 10 feet.

5. Landfill 26 stopped receiving wastes in the mid 1970s; however, it was not properly closed at that time. Chemical contaminants identified in soil borings consist of volatile and semi-volatile organics, pesticides and PCBs, petroleum hydrocarbons and heavy metals. Groundwater samples showed the presence of petroleum hydrocarbons, polynuclear aromatic hydrocarbons and low levels of heavy metals.

6. On March 18, 1992, the Board issued Order No. 92-029 to the discharger prescribing Wasted Discharge Requirements for the inactive landfill. Order No. 92-029 required closure of the landfill with an impermeable cap, groundwater containment and treatment, and ongoing groundwater monitoring. It also required submittal of a mitigation plan for 4.1 acres of seasonal wetland that was filled or degraded during landfill capping, and a flood control plan. The discharger completed installation of a low permeability cap and a groundwater treatment and extraction system in July of 1995.

7. Prior to installation of the cap, the wastes were periodically saturated by subsurface flow and infiltration of rainwater, resulting in groundwater contamination. The impermeable cap and groundwater treatment and extraction system were designed to treat the contaminated groundwater and prevent future saturation of the wastes

8. The Landfill 26 Groundwater Treatment Plant (GTP) is designed to remove volatile and semi-volatile organics, pesticides and PCBs, petroleum hydrocarbons and heavy metals. It consists of the following components: 1) oil separator; 2) flocculation tank; 3) clarifier; 4) pressure filters and 5) granular activated carbon units. The GTP has shown adequate performance under pilot testing conditions, but further testing is needed due to anticipated variability of the extracted groundwater.

9. Order 92-029 required that the discharger evaluate disposal alternatives for the treated groundwater and a final report was provided to Board staff in October of 1993. The conclusions included: 1) reuse not feasible due to high TDS of the water; 2) reinjection not feasible due to slow infiltration rates outside of the landfill; 3) petition for discharge to Novato Sanitary District (NSD) should be initiated; and 4) that direct discharge to surface waters was feasible, but would be a long-term solution due to the requirements of the Regional Water Quality Control Board. The discharger petitioned for discharge to NSD, but was not able to come to an economically feasible agreement to allow discharge. .

10. The discharger proposes to discharge the treated wastewater at a maximum of 40 gallons per minute to a drainage ditch (Perimeter Drainage Ditch or PDD) that surrounds the airfield and is emptied by pumps (East Levee Pump Station) over a dike and into the upper intertidal zone of San Pablo Bay. The effluent from the GTP will be piped about 50 feet to a 4 inch corrugated metal pipe, that extends about 2500 feet and receives some airfield runoff, before it discharges to the open channel portion of the PDD.

11. The discharger will apply for a separate NPDES permit for the basewide stormwater discharge that flows through the PDD and is discharged to San Pablo Bay at the East Levee Pump Station. This discharge receives stormwater runoff from most of the 1600 acres of the former HAA, as well as some unquantified inflow from adjacent agricultural properties. The large number of other potential sources of contamination prompted the discharger to pursue two separate permits.

12. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Basin Plan identifies beneficial uses and water quality objectives for surface and ground waters in the region, as well as discharge prohibitions intended to protect beneficial uses.

13. Effluent limitations in this permit are based on the plans, policies, and water quality objectives and criteria of the Basin Plan, Quality Criteria for Water (EPA 440/5-86-001, 1986; Gold Book), Applicable Federal Regulations (40 CFR Parts 122 and 131), the National Toxics Rule (57 FR 60848, 22 December 1992; NTR), and Best Professional Judgment.

14. The effluent concentration limit for copper included in this permit is based on 4.9 micrograms per liter (ug/L) copper as an interpretation of the narrative toxicity objective in the Basin Plan, based on best professional judgment. From a technical standpoint, 4.9 ug/L copper is currently the best available criterion that is protective of the most sensitive designated use of San Francisco Bay waters with respect to copper: habitat for aquatic organisms. The criterion is based on the Regional Board's study to develop a site-specific objective for copper, which employed the "water effect ratio" approach developed by the EPA. This approach provides a measure of the binding capacity of natural waters (dependent on particulate matter) relative to the binding capacity of reference waters (filtered oceanic water). The study and associated staff analysis are described in a September 25, 1992 Regional Board staff report entitled "Revised Report on Proposed Amendment to Establish a Site Specific Objective for Copper for San Francisco Bay."

15. The existing and potential beneficial uses of San Pablo Bay include:

    a) Industrial service supply
    b) Navigation
    c) Commercial and sport fishing
    d) Contact and non-contact water recreation
    e) Wildlife and estuarine habitat
    f) Fish migration and spawning
    g) Preservation of rare and endangered species; and
    h) Shellfish Harvesting.

16. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses (1) at any point in San Francisco Bay south of the Dumbarton Bridge and (2) at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any nontidal water, dead-end slough, similar confined water, or any immediate tributary thereof."

17. Exceptions to the prohibitions referred to in the previous Finding are allowed by the Basin Plan and are warranted for this discharge because this discharge is part of an overall pollution control plan and will result in a net environmental benefit.

18. Based upon the criteria in Board Resolution No. 88-160 and on information submitted by the discharger, the Board finds that treated extracted groundwater reclamation, re-use, or discharge to a POTW from the Landfill 26 is not feasible at this time.

19. The discharger has submitted a satisfactory Operations and Maintenance Manual for the treatment system prior to system startup.

20. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

21. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

22. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of waste or hazardous materials in a manner which will degrade the water quality or adversely affect beneficial uses of the waters of the State is prohibited.

2. The discharge shall be limited to extracted treated groundwater and added anti-scaling or anti-biofouling chemicals approved by the Executive Officer which do not adversely affect the environment and comply with the requirements of this Order.

3. The discharge or reclamation of extracted treated groundwater from a specific site in excess of the maximum flow rate (40 gallons per minute) is prohibited, unless an increase in flow rate is approved by the Executive Officer.

B. EFFLUENT LIMITATIONS

1. The effluent, at the discharge point to the storm drain, shall not contain constituents in excess of the limits contained in Table 1:

2. The flow of the groundwater treatment discharge shall not exceed 57,600 gallons per day.

3. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.

4. In any representative set of samples, the discharges shall meet the following limit of quality:

   Toxicity: The survival of test fishes in 96-hour static bioassays of the undiluted effluent as discharged shall be a three sample moving median of 90% survival, and a 90 percentile value of not less than 70% survival in a single sample. Static renewal bioassays shall be performed according to protocols approved by the U.S. EPA or the State Water Resources Control Board or published by the American Society for Testing and Materials or American Public Health Association. Two fish species will be tested concurrently. These shall be the most sensitive two species determined from a single concurrent screening of three, using two of the

following three test fish species in parallel tests: rainbow trout, fathead minnow, or three-spine stickleback.

TABLE 1 - EFFLUENT LIMITATONS

PARAMETER	Instantaneous Maximum Limit (ug/L)	Basis for Limitation
STANDARD OBSERVATIONS		
Bioassay	see text	BP
pH	6.5-8.5	BP
Hardness	--	std. observations
Total Dissolved Solids	--	std. observations
Alkalinity	--	std. observations
Standard Observations	--	std. observations
INORGANICS		
Aluminum, Dissolved	87	EPA
Arsenic, Tot.	36	BP
Beryllium, Tot.	5.3	EPA
Cadmium, Tot.	9.3	BP
Chromium, Tot.	50	BP
Copper, Tot.	4.9	BP
Lead, Tot.	5.6	BP
Mercury, Tot.	0.03	BP
Nickel, Tot.	8.3	BP
Selenium, Tot.	5	BP
Silver, Tot.	2.3	BP
Zinc, Tot.	86	BP
Cyanide, Tot.	1.0	BP
ORGANICS		
Benzene	1.0	BAT
Chlorobenzene	5.0	BAT
1,1-Dichloroethane	5.0	BAT
1,2-Dichloroethane	0.5	BAT
1,1-Dichloroethylene	5.0	BAT
Ethylbenzene	5.0	BAT
Methylene Chloride	5.0	BAT
Tetrachloroethylene	5.0	BAT
Toluene	5.0	BAT
1,2-trans Dichloroethylene	5.0	BAT
1,1,1-Trichloroethane	5.0	BAT
1,1,2-Trichloroethane	5.0	BAT
Trichloroethylene	5.0	BAT

Vinyl Chloride	0.5	BAT
2-Butanone	5.0	BAT
Xylene (total)	5.0	BAT
Pentachlorophenol	7.9	BP
Phenol	5.0	BP
1,2-Dichlorobenzene	5.0	BAT
1,3-Dichlorobenzene	5.0	BAT
1,4-Dichlorobenzene	5.0	BAT
PAHs(a)	0.03	BP
Other VOCs	5.0	BAT
DDT(a)	0.0006	BP
Heptachlor	0.0002	BP
PCBs(Total)(a)	0.0001	BP
Gasoline(8015 mod-TPHg)	50	BAT
Diesel (8015 mod-TPHd)	50	BAT
JP-4 (8015 mod-TPHj)	50	BAT
TCDD equivalents (Dioxin)(a)	1E-08	BP

BP= source of effluent limit is one of the following: Basin Plan, Gold Book, National Toxics Rule or Best Professional Judgement

EPA= source of effluent limit is USEPA Ambient Water Quality Criteria

BAT= effluent limit is based on the Best Available Technology that is commonly acheived by this treatment technology. Note that these are instantaneous maximum limits and that in order to meet this limit, the effluent should ususally acheive significantly lower concentrations of volatile organics (on the order of 0.5 ug/L).

DEFINITIONS

DDT shall mean the sum of the p,p^1 and o,p^1 isomers of DDT, DDD (TDE), and DDE.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]-fluoranthene,1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]-anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity equivalence factors, as shown in the table below.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8-tetra CDF	0.1
1,2,3,7,8-penta CDF	0.05
2,3,4,7,8-penta CDF	0.5
2,3,7,8-hexa CDFs	0.1
2,3,7,8-hepta CDFs	0.01
octa CDF	0.001

C. RECEIVING WATER LIMITATIONS

1. The discharge of wastes shall not cause the following conditions to exist in waters of the State at any place:

   a) floating, suspended, or deposited macroscopic particulate matter or foam;

   b) bottom deposits or aquatic growths;

   c) alteration of temperature or apparent color beyond present natural background levels;

   d) visible, floating, suspended, or deposited oil or other products of petroleum origin;

   e) toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

   a) pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.

   b) Dissolved oxygen: 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause lesser concentration(s) than specified above, the discharge shall not cause further reduction in the concentration of dissolved oxygen.

   c) Un-ionized ammonia (as N):

      0.025 mg/l annual mean
      0.4 mg/l maximum

3. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution

Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. PROVISIONS

1. The discharger shall comply with all sections of this order immediately upon adoption by the Board and upon starting any discharge.

2. The discharger shall comply with the Self-Monitoring Program (attached) as adopted by the Board and as may be amended by the Executive Officer.

3. The Discharger shall maintain a copy of this Order at the project field office so as to be available at all times to project personnel.

4. The discharger shall notify the Board if any activity has occurred or will occur which would result in the discharge, on a frequent or routine basis, of any toxic pollutant which is not limited by this Order.

5. Any discharge to a location other than the discharge point specified in this Order will require a modification to this Order or submission of a second NPDES application.

6. This permit may be modified prior to the expiration date to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through the Self-Monitoring Program included as part of this Order

7. This Order expires on DATE September 13, 2000. The discharger must file a report of waste discharge in accordance with Title 23, Division 3, Chapter 9 of the California Code of Regulations no later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

8. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

9. EVALUATION OF METALS EFFLUENT LIMITS VIOLATIONS

If any inorganic effluent limit is exceeded then the discharger shall take three additional samples for that constituent(s) during the following quarter.

Case 1 If the results of the three additional samples for the effluent do not exceed the effluent limit(s) the discharger shall report the results to the Executive Officer in the next Self-Monitoring Report, and shall return to the schedule of sampling and analysis in the Self-Monitoring Program.

Case 2 If the results of any one of the three additional samples exceed the effluent limit(s), the discharger shall perform the following:

a) Calculate the median and maximum concentration values for the constituent(s) of concern, using the three recent samples and all samples collected and analyzed for that constituent in the previous 12 month period.

b) Estimate the mass load discharged in the previous 12 month period for the constituent(s) of concern. Report the results in grams per day and in pounds per year, using the average flow rate for the previous 12 month period.

c) Report the results to the Executive Officer in the next Self-Monitoring Report, and return to the schedule of sampling and analysis in the Self-Monitoring Program.

Case 3 If the results of two or three of the additional samples exceed the effluent limit(s), the discharger shall perform the following:

a) Calculate median and maximum concentration values and mass load for the constituent(s) of concern, as described in Case 2 above.

b) Perform a cost analysis for treatment of the discharge for the constituent(s) of concern. The analysis should include, but need not be limited to, a discussion of various treatment technologies or pre-treatment filtration options, the cost and technical feasibility of increased treatment to reduce the constituent(s) of concern, and the amount of reduction in terms of concentration and average annual mass load. A joint effort may be undertaken and submitted by more than one discharger to evaluate cost and feasibility of treatment technologies or options.

If the results of the cost analysis indicates that metals treatment of the discharge does not appear to be a feasible option, then:

c) Perform an evaluation of the potential adverse impacts to the beneficial uses of the receiving water. The evaluation should include, but need not be limited to, description of the beneficial uses specific to the receiving water, physical and chemical characteristics of the water body and sediment, and the physical, chemical, or biological effects from the constituent(s) on the beneficial uses, including effects related to hardness for metals with hardness-dependent objectives.

If exceedances are only for metals with hardness-dependent objectives, then the discharger may conduct a hardness study prior to completing this task. The hardness study should assess receiving water hardness (as $CaCO_3$) and compute a "no effect" concentration for affected metals, using (i) the minimum of a statistically significant number of hardness samples, and (ii) hardness-dependent formula for US EPA freshwater criteria. If effluent metals concentrations fall below the computed "no effect" concentration, then the discharger need not complete the remainder of this task.

If the receiving water study finds that the discharge is having potential adverse impacts to beneficial uses of the receiving water, then:

d) Evaluate control measures other than treatment to reduce the constituent(s) of concern in the discharge, such as re-evaluating options for re-use, discharge to POTW, or alternatives to groundwater extraction.

e) Within 180 days of the discharger receiving results of the consecutive sampling, report the results of tasks (a) through (d) above to the Executive Officer, including:

1) -the proposed method to eliminate or minimize future non-compliance, or

2) -provide a rationale for why no change to the existing program should take place, and

3) -return to the schedule of sampling and analysis in the Self-Monitoring Program.

f) The discharger may be required to perform additional evaluations or take additional actions to minimize noncompliance, as deemed necessary by the Executive Officer.

g) If a violation of the same effluent limit occurs less than 60 months after completion of the required tasks in Cases 1, 2, or 3, then the Executive Officer may waive the evaluation required above. This waiver will not apply if a different inorganic constituent exceeds the effluent limit. In that case, the discharger shall perform an evaluation for that constituent(s).

F. STANDARD PROVISIONS

1. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance, as defined by Section 13050 of the California Water Code.

2. Duty to Comply

   a) If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act, or amendments thereto, for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the discharger must comply with the new standard or prohibition. The Board will revise the Order in accordance with such toxic effluent standard or prohibition and so notify the discharger.

   b) If more stringent applicable water quality standards are approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the discharger must comply with the new standard. The Board will revise this Order in accordance with such more stringent standards.

   c) The filing of a request by the discharger for modification or termination of permit coverage, or a notification of planned changes or anticipated non-compliance does not stay any permit condition.

3. Duty to Mitigate: The discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this Order which has a reasonable likelihood of adversely affecting public health or the environment, including such accelerated or additional monitoring as requested by the Board or Executive Officer to determine the nature and impact of the violation.

4. The discharger must notify the Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin to use and discharge a pollutant not reported in the permit application, or (2) a discharge of toxic pollutants not limited by this permit has occurred or will occur in concentrations that exceed the limits specified in 40 CFR 122.42(a).

5. The discharge of any radiological, chemical, or biological warfare agent waste is prohibited.

6. All facilities used for transport, treatment, or disposal of waste shall be adequately protected against overflow or washout as a result of a 100-year frequency flood.

7. Property rights: This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the discharger from liabilities under federal, state, or local laws, nor create a vested right for the discharger to continue the waste discharge, nor guarantee the discharger a capacity right in the receiving water.

8. Inspection and Entry: The Board or its authorized representatives shall be allowed:

   a) Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of the Order;

   b) Reasonable access to and duplication of any records that must be kept under the conditions of the Order;

   c) To inspect at reasonable times any facility, equipment, practices, or operations regulated or required under the Order; and

   d) To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with the Order or as otherwise authorized by the Clean Water Act any substances or parameters at any locations.

9. Duty to Provide Information: The discharger shall furnish, within a reasonable time, any information the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit. The discharger shall also furnish to the Board, upon request, copies of records required to be kept by its permit.

10. .Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Board may take enforcement action against the discharger for bypass unless:

    a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

    b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should be been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment down time or preventative maintenance; and

    c) The discharger submitted advance notice of the need for a bypass to the Board. If the discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least 10 days before the bypass date. The discharger shall submit notice of an unanticipated bypass as required elsewhere in the Order (24-hour reporting).

    The discharger may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such cases, the above bypass conditions are not applicable.

11. Continuation of Expired Permit: This permit continues in force and effect until a new permit is issued or the Board rescinds the permit. Only those dischargers authorized to discharge under the expiring permit are covered by the continued permit.

12. Treatment Reliability: The discharger shall, at all times, property operate and maintain all facilities which are used by the discharger to achieve compliance with this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. All of these procedures shall be described in an Operation and Maintenance manual. The discharger shall keep in a state of readiness all systems necessary to achieve compliance with the conditions of this Order. All systems, both those in service and reserve, shall be inspected an maintained on a regular basis. Records shall be kept of the tests and made available to the Board.

13. Errata: Should the discharger discover that it failed to submit any relevant facts or that it submitted incorrect information in any report, it shall promptly submit the missing or correct information.

14. Transfers: Coverage by this permit is not transferable to any person except after notice to the Executive Officer. The Executive Officer may require modification of the discharge authorization letter to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

15. Planned Changes: The discharger shall file with the Executive Officer an amended Notice of Intent at least 120 days before making any material change in the character, location, or volume of the discharge.

16. Enforcement: The provisions of this section shall not act as a limitation on the statutory or regulatory authority of the Board.

    a) Any violation of the permit constitutes violation of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act and regulations adopted thereunder, and is the basis for enforcement action, revocation of permit coverage, denial of an application for continued permit coverage, or a combination thereof.

    b) The Board may impose administrative civil liability, may refer a discharger to the state Attorney General to seek civil monetary penalties, may seek injunctive relief or take other appropriate enforcement action as provided in the California Water Code or federal law for violation of this Order.

    c) It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

    d) A discharger seeking to establish the occurrence of an upset has the burden of proof. A discharger who wishes to establish the affirmative defense of any upset in an action brought for non-compliance shall demonstrate through properly signed contemporaneous operating logs or other relevant evidence that: (i) an upset occurred and the permittee can identify the cause of the upset, (ii) the permitted facility was being properly operated at the time of the upset, (iii) the discharger submitted notice of the upset as required, and (iv) the discharger complied with any remedial measures required.

No determination made before an action for non-compliance, such as during administrative review of claims that non-compliance was caused by an upset, is final administrative action subject to judicial review.

17. Definitions

a) Bypass means the intentional diversion of waste streams from any portion of the treatment facility.

b) Overflow means the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system upstream from any part of the treatment facility.

c) Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. It does not mean economic loss caused by delays in production.

d) Toxic pollutant means any pollutant listed as toxic under Section 307(a) of the Clean Water Act or implementing regulations.

e) Upset means an exceptional incident in which there is unintentional temporary non-compliance with technology-based effluent limits in the Order because of factors beyond the reasonable control of the discharger. It does not include non-compliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

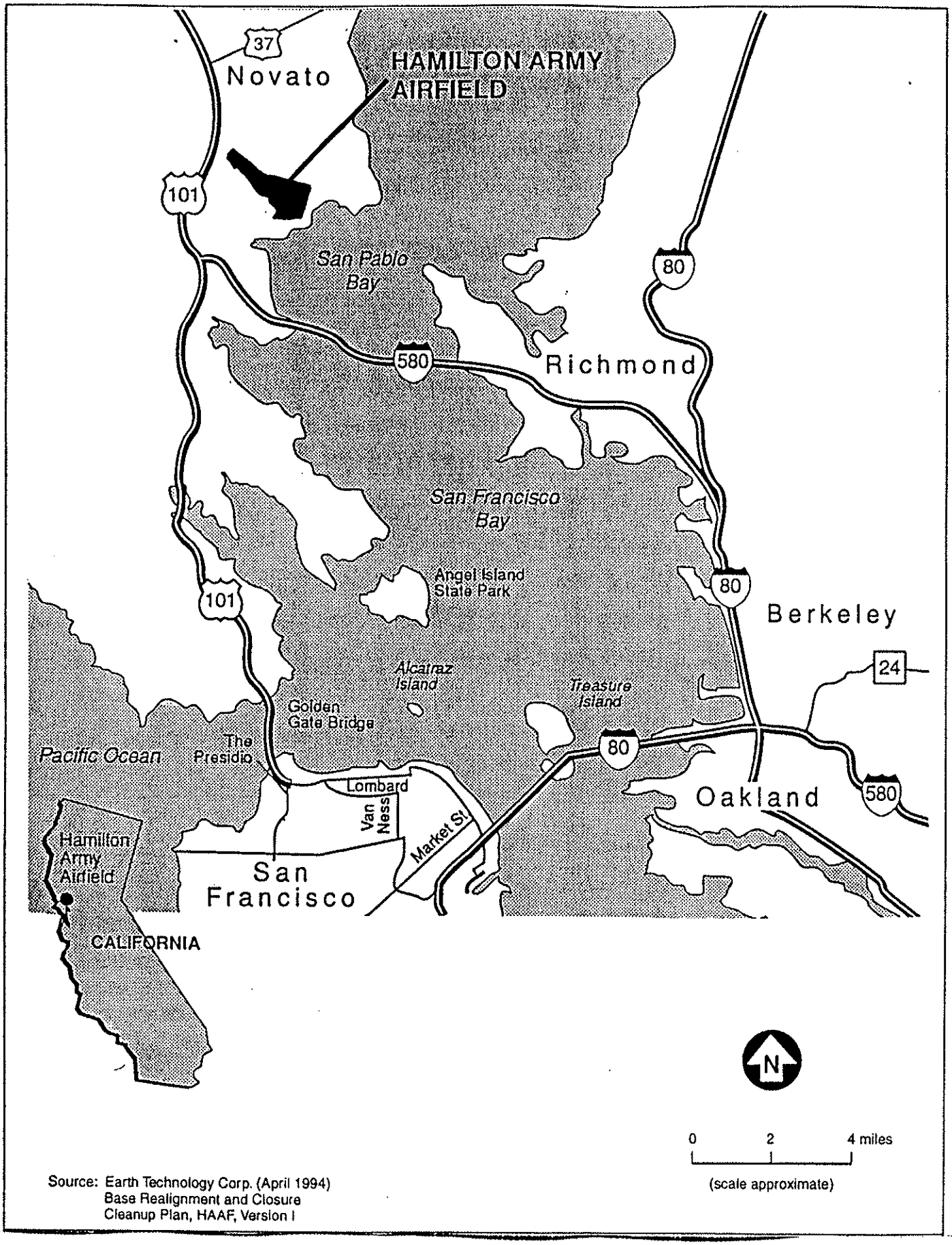
f) Waste, waste discharge, discharge of waste, and discharge are used interchangeably in this Order. The requirements of this Order apply to the entire volume of water, and the material therein, which is disposed of to surface and ground waters of the State of California.

I, Lawrence Kolb, Acting Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on September 13, 1995.

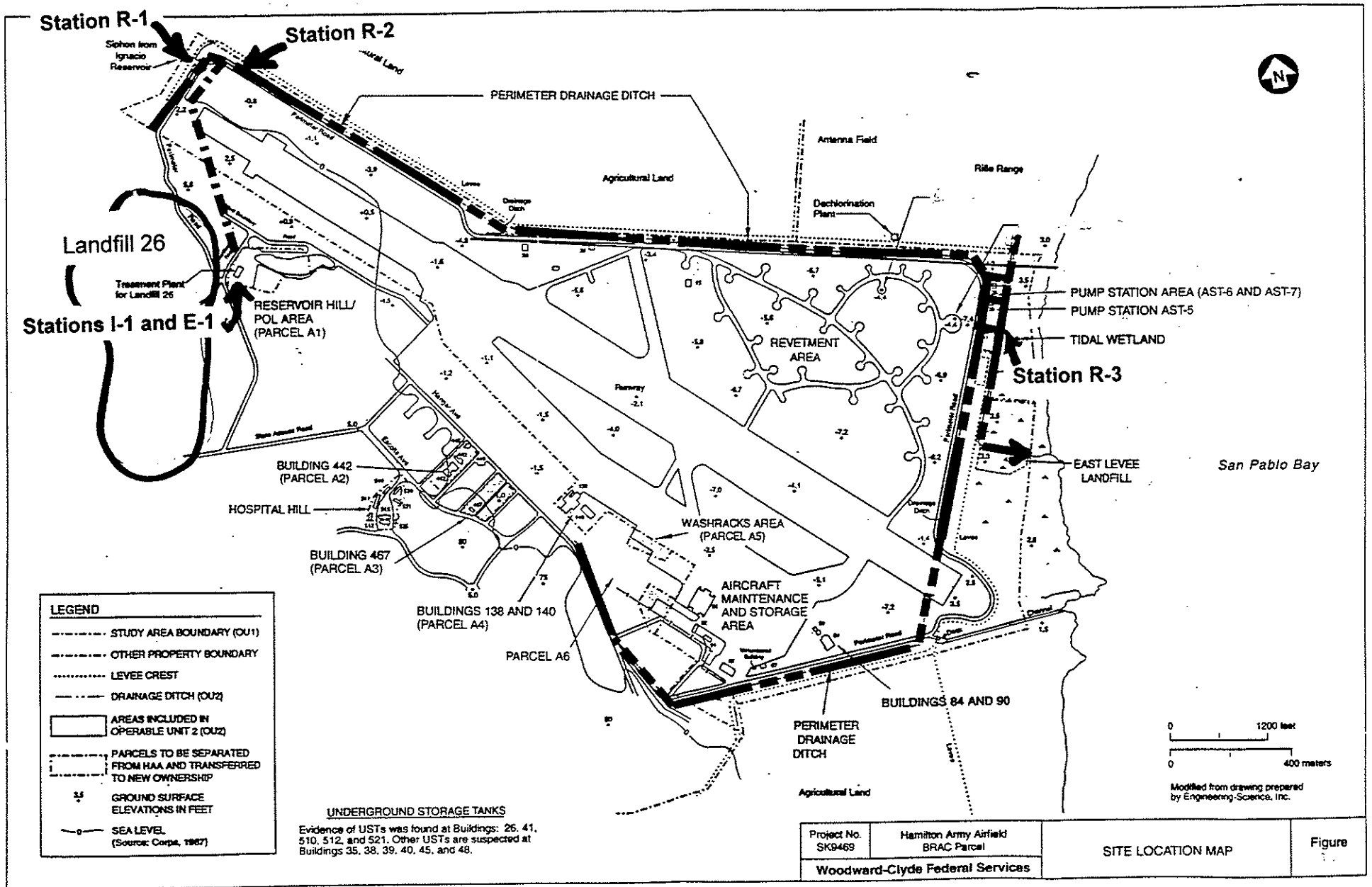
Lawrence Kolb
Acting Executive Officer

Attachment:s Figure 1 - Location Map
Figure 2 - Site Map
Self-Monitoring Program

FIGURE 1. LOCATION MAP



Source: Earth Technology Corp. (April 1994)
Base Realignment and Closure
Cleanup Plan, HAAF, Version I



SK9469-3000/030495/gos

Perimeter Drainage Ditch
Corrugated Metal Pipe

FIGURE 2. SITE MAP

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT
HAMILTON ARMY AIRFIELD
LANDFILL 26
NOVATO, MARIN COUNTY

ORDER NO. 95-188

NPDES NO. CA0030031

SELF-MONITORING PROGRAM

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT
HAMILTON ARMY AIRFIELD
LANDFILL 26
NOVATO, MARIN COUNTY

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383 and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16 and the Environmental Protection Agency's Discharge Monitoring Report (Form 3320-1).

The principal purposes of a monitoring program by a waste discharger, also referred to as self-monitoring program, are: (1) to document compliance with waste discharge requirements and prohibitions established by this Regional Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the 40 CFR 136 or other methods approved and specified by the Executive Officer of this Regional Board.

Water and waste analyses shall be performed by a laboratory approved for these analyses by the State Department of Health Services (DOHS) or a laboratory waived by the Executive Officer from obtaining a certification for these analyses by the DOHS.

The director of the laboratory whose name appears on the certification or his/her laboratory supervisor who is directly responsible for analytical work performed shall supervise all analytical work including appropriate quality assurance/quality control procedures in his or her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A ***grab sample*** is defined as an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples shall be collected

during normal peak loading conditions for the parameter of interest, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with daily maximum limits and ***instantaneous maximum*** limits. Grab samples represent only the condition that exists at the time the wastewater is collected.

2. A ***flow sample*** is defined as the accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.

3. ***Duly authorized representative*** is one whose:

   a) Authorization is made in writing by a principal executive officer or ranking elected official;

   b) Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as general partner in a partnership, sole proprietor in a sole proprietorship, the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

4. ***Instantaneous maximum*** is defined as the highest measurement obtained for the calendar day.

5. ***Median*** of an ordered set of values is that value below and above which there is an equal number of values, or which is the arithmetic mean of the two middle levels, if there is no one middle value

D. SPECIFICATIONS FOR SAMPLING AND ANALYSES

The discharger is required to perform sampling and analyses according to the schedule in Table A in accordance with the following conditions:

1. Effluent

   a) Samples of effluent and receiving waters shall be collected on days coincident with influent sampling unless otherwise stipulated. The Board or Executive Officer may approve an alternative sampling plan if it is demonstrated to the Board's satisfaction that expected operating conditions for the facility warrant a deviation from the standard sampling plan.

b) Grab samples of effluent shall be collected during periods of maximum peak flows and shall coincide with influent sample days.

c) Fish bioassay samples shall be collected on days coincident with effluent sampling. The fish species to be used for compliance in the 96-hour percent survival static or static renewal fish toxicity bioassay shall be rainbow trout.

d) Verification of analytical results:

1) 1)If analytical results are received showing any instantaneous maximum limit is exceeded for any *organic* constituent, a confirmation sample shall be taken within 24 hours and results known within 24 hours of the sampling.

2) 2)If analytical results indicate any instantaneous maximum limit is exceeded for any *inorganic* constituent, actions shall be taken and reported as stipulated in Provision E.4. of the permit.

e) If the final or intermediate results of any single bioassay test indicate a threatened violation (i.e., the percentage of surviving test organisms is less than the required survival percentage), a new test will begin and the discharger shall investigate the cause of the mortalities and report the finding in the next self-monitoring report.

f) When any type of bypass occurs, grab samples shall be collected on a daily basis for all constituents at all affected discharge points which have effluent limits for the duration of the bypass.

2. **Receiving Waters**

a) Receiving water sampling shall be conducted on days coincident with sampling of effluent.

b) In tidally-influenced receiving waters, samples shall be collected at each station on each sampling day during the period within 1 hour following low slack water. Where sampling at lower slack water period is not practical, sampling shall be performed during higher slack water period. Samples shall be collected within the discharge plume and downcurrent of the discharge point so as to be representative, unless otherwise stipulated.

c) Samples shall be collected within one foot below the surface of the receiving water body, unless water depth is less than one foot, in which case a mid-depth sample shall be taken.

E. DESCRIPTION OF SAMPLING STATIONS

Stations	Description
1. Influent	
I-1	At a point in the extraction system immediately prior to inflow to the treatment unit.
2. Effluent	
E-1	At a point in the discharge line immediately following treatment and before it joins or is diluted by any other waste stream, body of water, or substance.
3 Receiving Waters	
R-1	At a point 50 feet upstream from the point of discharge into the receiving water, or if access is limited, at the first point upstream which is accessible.
R-2	At a point 50 feet downstream from the point of discharge into the receiving water, or if access is limited, at the first point downstream which is accessible.
R-3	At a point 50 to 200 feet downstream from the point of discharge of the East Levee Pump Station into ditch which leads to the shallow waters of San Pablo Bay.

F. STANDARD OBSERVATIONS

1. Receiving Water

   a) Floating and suspended materials of waste origin (to include oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.

   b) Discoloration and turbidity: description of color, source, and size of affected area.

   c) Odor: presence or absence, characterization, source, distance of travel, and wind direction.

   d) Evidence of beneficial water use: presence of waterfowl or wildlife, fishermen, and other recreational activities in the vicinity of the sampling stations.

   e) Hydrographic condition, if relevant:

      1) Time and height of corrected high and low tides (corrected to nearest NOAA location for the sampling date and time of sample and collection).

      2) Depth of water columns and sampling depths.

   f) Weather condition:

      1) Air temperature.

      2) Wind - direction and estimated velocity.

      3) Precipitation - total precipitation during the previous five days and on the day of observation.

2. Waste Treatment Facilities

   a) Odor: presence or absence, characterization, source, and distance of travel.

   b) Weather condition: wind direction and estimated velocity.

   c) Deposits, discolorations, and/or plugging in the treatment system (stripping tower, carbon filters, etc.) which could adversely affect the system reliability and performance.

   d) Operation of the float and/or pressure shutoff valves installed to prevent system overflow or bypass.

G. RECORDS TO BE MAINTAINED

1. Written reports, strip charts, calibration and maintenance records, and other records shall be maintained by the discharger and accessible (at the waste treatment plant), and retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board or Regional Administrator of the U.S. Environmental Protection Agency, Region IX. Such records shall show the following for **each** sample:

   a) Identity of sampling and observation stations by number.

   b) Date and time of sampling and/or observations.

   c) Method of sampling (See Section C - Definition of Terms)

   d) Type of fish bioassay test (96 hour static or flow-through bioassay)

   e) Date and time that analyses are started and completed, and name of personnel performing the analyses.

   f) Complete procedure used, including method of preserving sample and identity and volumes of reagents used. A reference to a specific section of ***Standard Methods*** is satisfactory.

   g) Calculations of results.

   h) Results of analyses and/or observations.

2. Weekly discharge flow volume shall be recorded, as well as totalized quarterly and annual flow.

3. A tabulation reflecting bypassing and accidental waste spills shall be maintained.

H. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. **Spill Reports**

   If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited where it is, or probably will be discharged in or on any waters of the state, the discharger shall report such a discharge to this Regional Board, at (510) 286-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-office hours. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to:

a) nature of waste or pollutant,

b) quantity involved,

c) duration of incident,

d) cause of spilling,

e) Spill Prevention, Control, and Countermeasure Plan (SPCC) in effect, if any,

f) estimated size of affected area,

g) nature of effects (i.e., fish kill, discoloration of receiving water, etc.),

h) corrective measures that have been taken or planned, and a schedule of these activities, and

i) persons/agencies notified.

2. **Reports of Plant Bypass, Treatment Unit Bypass and Permit Violation**

In the event the discharger violates or threatens to violate the conditions of the waste discharge requirements and prohibitions or intends to permit a plant bypass or treatment unit bypass due to:

a) Maintenance work, power failures, or breakdown of waste treatment equipment, or

b) accidents caused by human error or negligence, or

c) other causes, such as acts of nature,

the discharger shall notify the Regional Board office by telephone as soon as the discharger and its agents have knowledge of the incident and confirm this notification in writing within 5 working days of the telephone notification. The written report shall include time, date, duration and estimated volume of waste bypassed, method used in estimating volume and person notified of the incident. The report shall include pertinent information explaining reasons for the noncompliance and shall indicate what steps were taken to prevent the problem from recurring.

In addition, the waste discharger shall promptly accelerate the monitoring program to analyze the discharge for chemicals which are being treated, at least once every day. Such daily analyses shall continue until such time as the effluent limits have been attained, until bypassing stops, or until such time as the Executive Officer determines to be appropriate. The results of such monitoring shall be included in the regular Self-Monitoring Report.

3. The discharger shall file a written technical report to be received at least 30 days prior to advertising for bid (or 60 days prior to construction) on any construction project which would cause or aggravate the discharge of waste in violation of requirements; said report shall describe the nature, cost, and scheduling of all action necessary to preclude such discharge. In no case will any discharge of wastes in violation of permit and order be permitted unless notification is made to the Executive Officer and approval obtained from the Regional Board.

4. **Self-Monitoring Reports**

Written reports shall be submitted on a calendar quarter basis, not later than 30 days following the last day of the quarter. The reports shall be comprised of the following:

a) **Letter of Transmittal:**
A letter transmitting self-monitoring reports should accompany each report. Such a letter shall include:

1) Identification of all violations of waste discharge requirements found during the reporting period,

2) Details of the magnitude, frequency, and dates of all violations,

3) The cause of the violations, and

4) Discussion of the corrective actions taken or planned and the time schedule for completion. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory.

Monitoring reports and the letter transmitting reports shall be signed by a principal executive officer or ranking elected official of the discharger, or by a ***duly authorized representative*** of that person.

The letter shall contain the following certification

> "I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false

information, including the possibility of fine and imprisonment for knowing violations."

b) **Compliance Evaluation Summary**

The report format shall be a format that is acceptable to the Executive Officer.

c) **Map or Aerial Photograph**

A map or aerial photograph shall accompany the report showing sampling and observation station locations.

d) **Results of Analyses and Observations**

The report format shall be a format that is acceptable to the Executive Officer.

1) If the discharger monitors any pollutant more frequently than required by this permit using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Self-Monitoring Report.

2) Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

3) The report shall also identify a table identifying by method number the analytical procedures used for analyses. Any special methods shall be identified and should have prior approval of the Board's Executive Officer.

4) Lab results shall be copied and submitted as an appendix to the regular report.

e) **List of Approved Analyses**

1) Listing of analyses for which the discharger is approved by the State Department of Health Services.

2) List of analyses performed for the discharger by another approved laboratory (and copies of reports signed by the laboratory director of that laboratory shall also be submitted as part of the report).

3) List of "waived" analyses, as approved by the Executive Officer.

f) **Flow Data**

1) The tabulation pursuant to Section G.2.

g) **Amount of VOCs Removed**

1) An estimate of the VOC mass removal in pounds.

5. **Annual Reporting**

By January 30 of each year, the discharger shall submit an annual report to the Regional Board covering the previous calendar year. The annual report shall contain all data required for the fourth quarter in addition to summary data required for annual reporting. This report may be submitted in lieu of the report for the fourth quarter of a calendar year.

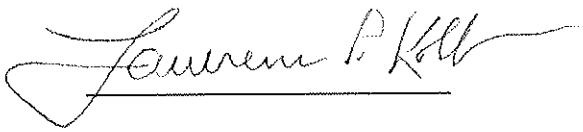
The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the report shall contain a comprehensive discussion of the compliance record and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements.

I, Lawrence Kolb, Acting Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 94-087.

2. Was adopted by the Board on September 13, 1995.

3. May be revised by the Executive Officer pursuant to US EPA regulations (40 CFR 122.36); other revisions may be ordered by the Board.



LAWRENCE KOLB

ACTING EXECUTIVE OFFICER

Attachment: Table A

TABLE A - SCHEDULE FOR SAMPLING, MEASUREMENTS AND ANALYSIS

PARAMETER	I-1	E-1	R-1	R-2	R-3
STANDARD OBSERVATIONS					
Bioassay	--	W	Y	Y	--
pH	--	d	W	W	W
Hardness	W	W	Q	Q	Q
Total Dissolved Solids	W	W	Q	Q	Q
Alkalinity	W	W	Q	Q	Q
Standard Observations	W	W	W	W	W
INORGANICS					
Aluminum, Dissolved	W	W	V	V	V
Arsenic, Tot.	D	D	Q/V	Q/V	Q/V
Beryllium, Tot.	W	W	Q/V	Q/V	Q/V
Cadmium, Tot.	W	W	Q/V	Q/V	Q/V
Chromium, Tot.	W	W	Q/V	Q/V	Q/V
Copper, Tot.	D	D	Q/V	Q/V	Q/V
Lead, Tot.	D	D	Q/V	Q/V	Q/V
Mercury, Tot.	W	W	Q/V	Q/V	Q/V
Nickel, Tot.	D	D	Q/V	Q/V	Q/V
Selenium, Tot.	W	W	Q/V	Q/V	Q/V
Silver, Tot.	W	W	Q/V	Q/V	Q/V
Zinc, Tot.	W	W	Q/V	Q/V	Q/V
Cyanide, Tot.	W	W	Q/V	Q/V	Q/V
ORGANICS					
Benzene	D	D	V	V	V
Chlorobenzene	D	D	V	V	V
1,1-Dichloroethane	D	D	V	V	V
1,2-Dichloroethane	D	D	V	V	V
1,1-Dichloroethylene	D	D	V	V	V
Ethylbenzene	D	D	V	V	V
Methylene Chloride	D	D	V	V	V
Tetrachloroethylene	D	D	V	V	V
Toluene	D	D	V	V	V
1,2-trans Dichloroethylene	D	D	V	V	V
1,1,1-Trichloroethane	D	D	V	V	V
1,1,2-Trichloroethane	D	D	V	V	V

Trichloroethylene	D	D	V	V	V
Vinyl Chloride	D	D	V	V	V
2-Butanone	D	D	V	V	V
Xylene (total)	D	D	V	V	V
Pentachlorophenol	D	D	V	V	V
Phenol	D	D	V	V	V
1,2-Dichlorobenzene	D	D	V	V	V
1,3-Dichlorobenzene	D	D	V	V	V
1,4-Dichlorobenzene	D	D	V	V	V
PAHs - (see definitions)	D	D	V	V	V
Other VOCs	D	D	V	V	V
DDT)	W	W	V	V	V
Heptachlor	W	W	V	V	V
PCBs(Total)- (see definitions)	W	W	V	V	V
Gasoline(8015 mod-TPHg)	D	D	V	V	V
Diesel (8015 mod-TPHd)	D	D	V	V	V
JP-4 (8015 mod-TPHj)	D	D	V	V	V
TCDD equivalents (Dioxin) - (see definitions)	W	W	V	V	V

SAMPLING POINTS

I-1 =Influent.

E-1=Effluent.

R-1=Receiving Water, 50 feet upstream from the discharge of the storm drain to the ditch.

R-2= Receiving Water, 50 feet downstream from the discharge of the storm drain to the ditch.

R-3= Receiving Water, 50 feet downstream from the discharge of the East Levee Pump Station into the ditch leading to San Pablo Bay.

FREQUENCY

d = daily measurements shall be reported, along with monthly averages over the days of plant operation.

D = daily for one week, then weekly for one month, then monthly for one quarter, then quarterly until the Executive Officer the RWQCB permits a change to the monitoring program..

W = weekly for one month, then monthly for one quarter, then quarterly until the Executive Officer of the RWQCB permits a change to the monitoring program.

M = monthly for one quarter, then quarterly until the Executive Officerof the RWQCB permits a change to the monitoring program.

V = variable, sample the receiving water within 24 hours if the effluent limit (at E-1) has been exceeded.

Q/V = quarterly and sample the receiving water within 24 hours if the effluent limit (at E-1) has been exceeded.

DEFINITIONS

DDT shall mean the sum of the p,p^1 and o,p^1 isomers of DDT, DDD (TDE), and DDE.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]-fluoranthene,1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]-anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity equivalence factors, as shown in the table below.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8-tetra CDF	0.1
1,2,3,7,8-penta CDF	0.05
2,3,4,7,8-penta CDF	0.5
2,3,7,8-hexa CDFs	0.1
2,3,7,8-hepta CDFs	0.01
octa CDF	0.001